

What is claimed is:

1. A polarizing beam splitter, comprising:
a multilayer reflective polarizing film;
5 a pressure sensitive adhesive disposed on the multilayer reflective polarizing film; and
a first rigid cover disposed on the pressure sensitive adhesive.
2. The polarizing beam splitter according to claim 1, further comprising a second rigid
cover disposed adjacent to the multilayer reflective polarizing film.
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3. The polarizing beam splitter according to claim 2, further comprising a structural
adhesive disposed between the second rigid cover and the multilayer reflective polarizing
film.
- 15 4. The polarizing beam splitter according to claim 2, wherein the first cover is a prism
and the second cover is a prism.
5. The polarizing beam splitter according to claim 2, wherein the first cover is a glass
prism and the second cover is a glass prism.
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6. The polarizing beam splitter according to claim 1, wherein the pressure sensitive
adhesive is substantially free of photo initiators.
7. The polarizing beam splitter according to claim 1, wherein the pressure sensitive
25 adhesive is substantially free of unreacted monomers or substantially free of unreacted
oligomers.
8. A polarizing beam splitter, comprising:
a first multilayer reflective polarizing film;

a second multilayer reflective polarizing film proximate the first multilayer reflective polarizing film, wherein a major surface of the second multilayer reflective polarizing film faces a major surface of the first multilayer reflective polarizing film;

an adhesive disposed between the first multilayer reflective polarizing film and the second multilayer reflective polarizing film;

a first pressure sensitive adhesive disposed on the first multilayer reflective polarizing film;

a first rigid cover disposed on the pressure sensitive adhesive; and

a second rigid cover disposed adjacent to the second multilayer reflective polarizing film.

9. The polarizing beam splitter according to claim 8, further comprising a structural adhesive disposed between the second rigid cover and the second multilayer reflective polarizing film.

10. The polarizing beam splitter according to claim 8, further comprising a second pressure sensitive adhesive disposed between the second rigid cover and the second multilayer reflective polarizing film.

11. The polarizing beam splitter according to claim 8, further comprising a structural adhesive disposed between the first multilayer reflective polarizing film and the second multilayer reflective polarizing film.

12. The polarizing beam splitter according to claim 8, wherein the first cover is a prism and the second cover is a prism.

13. The polarizing beam splitter according to claim 8, wherein the first cover is a glass prism and the second cover is a glass prism.

14. The polarizing beam splitter according to claim 8, wherein the first pressure sensitive adhesive is substantially free of photo initiators.

15. The polarizing beam splitter according to claim 8, wherein the first pressure sensitive adhesive is substantially free of unreacted monomers or substantially free of unreacted oligomers.

16. A projection system, comprising:
a light source to generate light;

an imaging core to impose an image on generated light from the light source to form image light, wherein the imaging core comprises at least one polarizing beam splitter and at least one imager, wherein the polarizing beam splitter comprises:

a multilayer reflective polarizing film;

a pressure sensitive adhesive disposed on the multilayer reflective polarizing film and between the light source and the multilayer reflective polarizing film; and

a first rigid cover disposed on the pressure sensitive adhesive; and

a projection lens system to project the image light from the imaging core.

17. The projection system according to claim 16, further comprising a second rigid cover disposed adjacent to the multilayer reflective polarizing film.

18. A method of making a polarizing beam splitter, the method comprising:

disposing a pressure sensitive adhesive between a multilayer reflective polarizing film and a first rigid cover.

19. The method according to claim 18, further comprising the step of placing a second rigid cover adjacent to the multilayer reflective polarizing film to form a polarizing beam splitter.

20. The method according to claim 18, wherein the disposing step comprises disposing a pressure sensitive adhesive onto a multilayer reflective polarizing film to form an adhesive polarizing film laminate and applying the adhesive polarizing film laminate onto a first rigid cover.

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21. The method according to claim 19, further comprising applying a structural adhesive between the multilayer reflective polarizing film and the second rigid cover.

22. The method according to claim 20, wherein the applying step comprises laminating the adhesive polarizing film laminate onto a first rigid cover.

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23. The method according to claim 19, wherein the disposing step and placing step are performed without curing the pressure sensitive adhesive.

15 24. A method of making a polarizing beam splitter, the method comprising:
disposing a first pressure sensitive adhesive between a first multilayer reflective polarizing film and a first rigid cover;
disposing a second pressure sensitive adhesive between a second multilayer reflective polarizing film and a second rigid cover; and
20 placing the first multilayer reflective polarizing film adjacent the second multilayer reflective polarizing film to form a polarizing beam splitter.

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25. The method according to claim 24, further comprising applying a structural adhesive between the first multilayer reflective polarizing film and the second multilayer reflective polarizing film.

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26. The method according to claim 24, wherein the disposing a first pressure sensitive adhesive comprises laminating a first pressure sensitive adhesive onto a first rigid cover.

27. The method according to claim 24, wherein the disposing a second pressure sensitive adhesive comprises laminating a second pressure sensitive adhesive onto a second rigid cover.

5 28. The method according to claim 24, wherein the disposing steps and placing step are performed without curing the first pressure sensitive adhesive or second pressure sensitive adhesive.